

EXHIBIT 4

EXHIBIT 4

Microsoft EFI FAT32 File System Specification

<http://msdn.microsoft.com/en-us/library/gg463080.aspx>

Microsoft
Developer Network

Home Technologies Dev centers Connect Downloads Library Samples

MSDN subscriptions Get tools Sign in

Follow us

MSDN Library

- Design Tools
- Development Tools and Languages
- Mobile and Embedded Development
- .NET Development
- Office development
- Online Services
- Open Specifications
- Patterns & Practices
- Servers and Enterprise Development
- Speech Technologies
- Web Development
- Windows Desktop App Development

Microsoft EFI FAT32 File System Specification

5 out of 12 rated this helpful - [Rate this topic](#)

Updated: Dec 6, 2000

The FAT (File Allocation Table) file system has its origins in the late 1970s and early 1980s and was the file system supported by the Microsoft MS-DOS operating system. It was originally developed as a simple file system suitable for floppy disk drives less than 500K in size. Over time it has been enhanced to support larger and larger media. Currently there are three FAT file system types: FAT12, FAT16 and FAT32. The basic difference in these FAT subtypes, and the reason for the names, is the size, in bits, of the entries in the actual FAT structure on the disk. There are 12 bits in a FAT12 FAT entry, 16 bits in a FAT16 FAT entry and 32 bits in a FAT32 FAT entry.

The Microsoft Extensible Firmware Initiative (EFI) FAT32 File System Specification, rev. 1.03, Dec 6, 2000, is available as an Office Word document (268 KB).

Note: The download license agreement permits you to use the Microsoft EFI FAT32 File System Specification only in connection with a firmware implementation of the Extensible Firmware Initiative Specification, v. 1.0. If you plan to implement the FAT32 File System Specification for other purposes, you must obtain an additional license from Microsoft. For example, you must obtain an additional license in order to create a file system for reading or writing FAT32 in digital cameras recording to flash media, in computer operating systems reading and writing internal/external hard disks or flash media, or in set-top boxes reading FAT-formatted media. To obtain this additional license, see the [Microsoft Intellectual Property Licensing](#) page.

Please read the license agreement before continuing.

MICROSOFT EFI FAT32 FILE SYSTEM SPECIFICATION LICENSE AGREEMENT

Microsoft Extensible Firmware Initiative (EFI) FAT32 File System Specification

IMPORTANT-READ CAREFULLY: This Microsoft Agreement ("Agreement") is a legal agreement between you (either an individual or a single entity) and Microsoft